

Estimated Reserves of Iron Ore and

Petroleum in Communist China, the USSR and the US

Quantitative estimates of mineral resources or reserves in any country are highly tenuous, particularly when no impending shortage exists to stimulate intensive exploration. In the case of the United States, for example, estimates of total reserves of iron ore are based to a considerable extent on geological probabilities because presently known reserves, including those economically available from foreign sources, are adequate for the foreseeable future. Thus little incentive exists to invest large sums in determining the precise quantities of ore that are contained within the national boundaries.

In attempting to compare estimates of total iron ore resources in the United States (themselves subject to wide ranges of interpretation), with those of other countries, particularly Communist countries, the analyst is confronted with additional dilemmas, including the definitions of "proven" and "potential" ore in each country, the interpretation of these definitions, the minimum characteristics that would qualify a deposit as commercially exploitable, and, finally, the extent to which the resources in each country have been explored. In view of the emphasis on autarky and long range planning in Communist countries, more attention, if not validity, is given to the aggregation of nation-wide resources than in the US.

The estimates of iron ore resources in the US, the USSR and Communist China that follow are subject to all of the foregoing qualifications, with the further admonition that quantities appearing in the "Proven" and "Potential" categories may be interchangeable to an unknown extent. It may be concluded, however, that each country has sufficient reserves to last several generations, although these are not all located conveniently to sources of coking coal and consuming centers.

Billions of Metric Tons

		<u>Crude Iron Ore</u>			<u>70% Fe Equivalent</u>		
	<u>Year</u>	<u>Proven</u>	<u>Potential</u>	<u>Total</u>	<u>As Mined</u>	<u>As Concentrates</u>	<u>Total</u>
US 1/	1957	10.2	66.0	76.2	2.6	28.0	30.6
USSR	1957	35.3	48.4	83.7	5.0	38.4	43.4
Communist China 2/	1959	10.0	5.9	15.9	2.8	4.0	6.8

1. The US finds it advantageous to import iron ore, principally from Canada, Venezuela and Brazil, rather than to exploit its less economic deposits. Imports in 1958 amounted to about 30% of consumption.
2. During the "Great Leap Forward" campaign of 1958 the Chinese Communists claimed reserves of 100 billion tons. The estimates in the tables are based on the relatively more reliable planning announcements of the Ministry of Geology.

The same caveats noted in regard to estimates of iron ore reserves apply as well to petroleum. It is estimated that the US possessed (1 January 1958) 30 billion barrels of "proved" reserves of natural crude oil, i.e., petroleum that may be said with reasonable certainty to be recoverable. Reserves in the same category in the USSR were estimated at 25.9 billion barrels as of December 1955.

Since that time large but quantitatively unverified additions to reserves have been made which would raise the total present reserves to more than 30 billion barrels. In the seven year plan, 1959-65, continued intensive exploration effort is planned to substantially double the proved reserves. Geologic prospects and success to date indicate that proved reserves in the USSR will probably exceed 60 billion barrels by 1965. US reserves are not expected to increase at any thing like the rate of those in the USSR.

In 1956 China claimed proved reserves of only 30 million tons (225 million barrels). Subsequent additions to proved reserves are unknown. An assessment of wide-spread oil finds indicates that China may ultimately recover as much as 9 billion barrels of oil from presently known fields but the major oil deposits are still unproved.

In addition to natural crude oil, Communist China is estimated to have reserves of 50 billion barrels of petroleum in oil shale. The richer oil shales in the US are estimated to contain one trillion barrels of oil.

Chinese production of natural crude and of oil from shale in 1958 is estimated at 10.5 and 5.2 million barrels respectively. Chinese production of oil from shale was initiated by the Japanese; US oil shales have thus far been exploited only on an experimental basis.